EVO

Engagement Value Outcome

Case studies

North Staffordshire Combined
Healthcare NHS Trust

March 2020

Adult Community Mental Health Teams
Crisis Care
Memory Assessment Service

Contents

Foreword

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In today's NHS, organisations can only deliver effective patient care within available resources by creating an environment where working relationships between clinicians and finance teams are thriving. Clinicians are responsible ultimately for the way in which services are delivered and for committing resources. They can only do this effectively with input from finance colleagues. For instance, through sharing cost and patient outcomes data for better informed decision making.

"

– Department of Health and Social Care, Effective clinical and financial engagement: a best practice guide for the NHS, 2013

This quote from the Department of Health and Social Care emphasises the importance of building collaborative relationships between finance and clinical teams to ensure that value is at the centre of decision-making.

Value in healthcare – maximising the outcomes which matter to people at the lowest possible cost – is increasingly seen as a key lever for supporting the delivery of high-quality sustainable healthcare.

The roll-out of patient-level costing (PLICS) across the NHS means that services have an increasingly rich source of information to help them understand their patients and services, however awareness of this data outside the costing team is not widespread.

The HFMA's Healthcare Costing for Value Institute and Future-Focused Finance have worked together to develop the Engagement Value Outcome (EVO) framework. EVO promotes collaborative working between clinical and finance teams and their collective understanding of PLICS, providing the NHS with a framework to ensure resources are used in the most effective way possible to provide high-quality care to patients.

During the second half of 2019 we piloted the EVO framework with four trusts, covering acute, mental health and community services.

This report describes the experience of those involved in EVO at North Staffordshire Combined Healthcare NHS Trust who chose to look at Adult Community Mental Health Teams, Crisis Care and the Memory Assessment Service.

Catherine Mitchell
Head of Costing and Value
Healthcare Financial Management Association

David Ellcock
Programme Director
Future-Focused Finance

What is EVO?

EVO facilitates the **engagement** of multidisciplinary teams in the understanding and use of patient-level information and costs, and its relationship to **value** in healthcare. The ultimate purpose being to achieve the best **outcome** for the patient within the resources available.

A trained facilitator works with a core group of individuals at specialty level over the course of a few months. The aim is to improve their understanding of PLICS data, so that they start using it on a regular basis to support improvements in the efficiency and effectiveness of how patient care is delivered. EVO can be delivered at any NHS trust that has implemented PLICS in any sector.

"EVO helps clinical teams identify how they can use their resources in the most effective way possible to provide high-quality care to their patients"

Patient-level information and costing systems (PLICS)

The NHS has increasingly detailed information – on both activities and costs – about how its resources are used at patient level.

All acute trusts are required to calculate their costs at patient level and over the next couple of years the same will be true for mental health, community and ambulance providers. Reference costs, which are the average costs of a particular treatment, are gradually being replaced by PLICS.

Combined with other data sources, PLICS provides clinical teams with a rich source of information to help them understand their patients and services. Linking patient-level costs with outcomes allows the NHS to promote value for the patient, ensuring that resources are used in the most effective way possible to provide high-quality care.
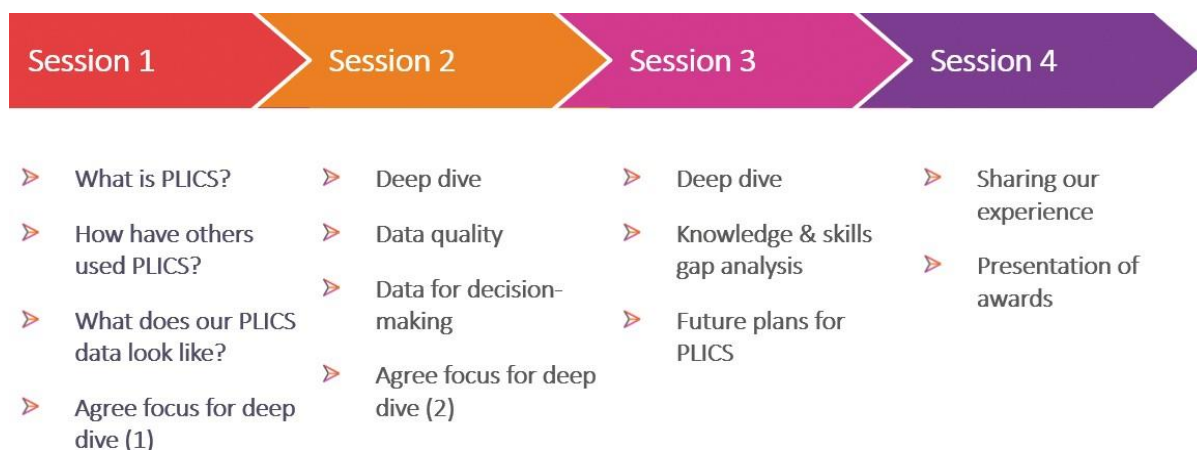
"PLICS provides clinical teams with a rich source of information to understand their patients and services"

EVO in practice

Trusts that have implemented PLICS often struggle to find the time, resource or direction to begin using the data collaboratively. Taking part in EVO provided the four pilot trusts with the support they needed.

Each pilot trust identified three specialties or clinical services which would benefit from the EVO experience. Appendix A provides more information about the trusts and their chosen services.

Each team met for three two-hour sessions over a period of three months. The final fourth session provided the opportunity to share learning across the trust. Sessions were delivered by trained facilitators using a mixture of video case studies, deep dives into local PLICS data and group discussions.

Session 1	Session 2	Session 3	Session 4
➢ What is PLICS?	➢ Deep dive	➢ Deep dive	➢ Sharing our experience
➢ How have others used PLICS?	➢ Data quality	➢ Knowledge & skills gap analysis	➢ Presentation of awards
➢ What does our PLICS data look like?	➢ Data for decision-making	➢ Future plans for PLICS	
➢ Agree focus for deep dive (1)	➢ Agree focus for deep dive (2)		

Who was involved?

Key to the success of EVO were the two EVO sponsors at director level:

➢ clinical champion
➢ finance champion

A multi-disciplinary team made up of clinicians, operational managers, finance and informatics staff attended all the EVO sessions for a particular specialty or clinical service.

Doctor

Nurse

Costing practitioner

"Getting the right people in the room is key"

Service manager

Informatics

Finance business partner

Trust summary

North Staffordshire Combined Healthcare NHS Trust (the Trust) started implementing PLICS in 2015 and now has a well-established system in place. The Trust won the National HFMA Costing Award in December 2016.

As well as having a standard PLICS dashboard, the costing team has developed their own Activity Information Dashboard 'AID'. AID allows the costing team to present data in a way that is user friendly, easy to understand and tailored to the needs of the services. More information about AID can be found in Appendix B.

Although the costing team has started rolling out the use of PLICS, via a number of named PLICS clinical champions, this has not yet been done trust wide. The Trust felt that the EVO Framework would be a good way to encourage trust-wide interest in PLICS.

'The next stage in integrating PLICS into people's working lives is by bringing PLICS to front of the agenda to drive service improvements. We are in the process of deriving a PLICS Strategy to embed fully into the Trust, with the main barrier being clinicians being unable to see how they can translate £ into service improvements without having some of the common currencies and language which the acute services benefit from. We think EVO is a great framework to help to support us to overcome these barriers and fully embed through full engagement from clinicians, finance and the Board.'

The case studies in this report provide a flavour of some of the conversations the multi-disciplinary teams had within their EVO sessions as they explored their PLICS data. These conversations varied depending on the maturity and depth of the data. EVO was not about completing detailed improvement projects, but rather about providing teams with some facilitated time to start thinking about how PLICS data might help them to better understand their patients and services.

Impact of being involved in EVO

At the end of EVO, the three EVO teams presented their findings to a wider trust group, who were enthusiastic about the approach. As one person said '*This needs to become business as usual – for every service and every team.*'

The active engagement of clinical, operational and costing staff in the EVO sessions meant that the sessions were very pro-active. Not only did clinical services gain a better understanding of how PLICS could support them with service improvement, their enthusiasm for using the data to identify opportunities to improve services meant that service changes were already starting to be implemented during the period that EVO took place.

EVO achievements

- Clinical services have a better understanding of how PLICS data can support service improvement
- Working relationships between clinical services, informatics and finance strengthened
- Opportunities for improving the breadth and quality of PLICS data were highlighted
- Improvement opportunities for the efficiency and effectiveness of patient care were identified

Key learning points from experience

Focus on quality and the money will follow

EVO's multidisciplinary approach with clinicians and finance working together as a team meant that the process felt clinically led, and therefore different to the normal cost improvement plan process. One participant said that the tone for this work was set by the director of finance in the opening EVO session with the statement *'Do the right thing for the patient, and the money will follow.'*

The power of clinical and finance staff collaboration

Clinical teams discovered through the EVO experience how finance and informatics colleagues can help with both the interpretation and presentation of data to support them to improve clinical services. Through close working, the multidisciplinary EVO team developed a new dashboard to support improvements to the appointment system for adult community mental health teams.

Identifying variation

The ability to drill down into the granular data of PLICS allowed services to identify trends and variations in the delivery of services which was not possible when looking at aggregated data. Although adult community mental health teams routinely received information on the percentage of did not attends (DNAs), this was the first time they had seen data at a sufficiently detailed level that would help to spot trends, which allowed them to come up with solutions to address the high level of DNAs. Their pro-active approach during EVO meant that by the end of EVO in one service the DNA rate for new appointments had reduced from 50% to 22%.

Mapping patient pathways

Clinical teams found the visual presentation of patient pathways, using PLICS data, particularly striking as it demonstrated how complex, and occasionally uncoordinated, pathways can be for individual patients. Working with others in the EVO team, the clinical lead for memory services developed a new clinical pathway for the memory assessment service.

Improving the richness and quality of data

The multidisciplinary approach also led to improvements to the data the Trust can use as business intelligence. The Crisis Care EVO group explored how to use e-rostering data to measure patient dependency, so that safe ward staffing levels can be identified.

Further information

For more information about North Staffordshire Combined Healthcare's approach, contact:

➢ Nick Wildin - Costing Manager *Nicholas.Wildin@combined.nhs.uk*
➢ Dave Norcup - Information and Costing Associate *Dave.Norcup@combined.nhs.uk*

Case Study one – Adult Community Mental Health Teams

Introduction

The Community Directorate had already had some exposure to activity and cost data ahead of the EVO pilot, as the costing team had presented the Trust's PLICS and the Activity Information dashboard (AID) at a previous directorate meeting. (Appendix B provides information about AID).

A multi-disciplinary group made up of clinical and managerial representatives from community mental health services, the performance directorate and the two members of the Trust's costing team attended the EVO sessions. The directorate clinical and managerial leads were keen for the EVO pilot to help them understand elements of the clinical pathway, and to support them to make informed changes to working practices.

The group agreed that the remit of EVO should also take account of the quality improvement initiative that was just starting within the Lymebrook adult community mental health team (CMHT), known as IMPROVE, and to work collaboratively on topics like did not attends.

Topics explored

The first EVO session was used to ensure that all participants had a common understanding of the information that could be accessed through PLICS and AID. They were also given an overview of the approach to costing patient care.

The subsequent discussions resulted in an agreement to:

> ➢ analyse the patterns of community clinic attendance
> ➢ investigate why drug cost improvement savings had not been achieved
> ➢ discuss patient pathways for patients who access both their adult CMHT and the Access team.

Adult community mental health teams (Adult CMHTs)
The integrated community mental health teams provide mental health services to adults across North Staffordshire. The services provided are based upon a recovery orientated model which enables adults with mental health related issues and their families, friends and significant others to live and maintain their optimum social roles.

Investigating patterns of clinical attendance

The EVO group agreed to investigate the did-not-attend (DNA) and cancellation rates of adult CMHTs. The directorate already recognised that the high volume of DNAs meant that clinical time was not being used effectively at some clinics with frequent gaps between appointments. There had not, so far, been any systematic approach to tackling this issue. The group planned to use this opportunity to identify data to help them to understand the patterns of clinic attendance. This could then be used to review the consistency of DNA systems and processes across all teams and help in the development of a set of clinic rules to try to improve service efficiency.

The costing team produced an analysis of clinic attendance at the Lymebrook adult CMHT in Newcastle-under-Lyme (figure 1). Although service staff routinely received information on the percentage of DNAs, this was the first time they had seen data at a sufficiently detailed level that would help to spot patterns and trends.

Figure 1: Analysis of attendance at Lymebrook CMHT clinics during 2018/19

	Mon	Tue	Wed	Thu	Fri	9am	10am	11am	12pm	1pm	2pm	3pm
Booked Appointments	1,154	1,099	29	1,271	1,648	967	1,445	1,374	737	263	300	110
Attended On Time	606	617	19	636	860	468	725	717	405	181	170	68
Cancelled by Hospital	292	266	1	343	391	260	398	344	173	40	60	18
Cancelled by Patient	30	28	3	40	58	32	46	38	22	8	9	4
Did Not Attend	226	188	6	252	339	207	276	275	137	34	61	20
Appointments Exc CANBH & CANBP	832	805	25	888	1,199	675	1,001	992	542	215	231	88
DNA %	27%	23%	24%	28%	28%	31%	28%	28%	25%	16%	26%	23%

Identifying trends using the DNA data

Patients did not turn up for 27% of appointments at Lymebrook CMHT clinics. Based on a typical appointment lasting 30 minutes, DNAs equated to 505 hours of wasted clinic time at an estimated opportunity cost of £257k.

The final row of the chart in figure 1 shows the percentage of DNAs by day of the week and time of day. These are calculated using attended and unattended appointments only i.e. excluding those cancelled in advance by the hospital or the patient.

The analysis shows that:

➢ Thursdays and Fridays have the highest number of DNAs
➢ the majority of appointments are booked for morning slots, with only 17% booked for 1pm or after
➢ 9-10am has the highest number of DNAs at 31%
➢ 1-2pm has the lowest number of DNAs at 16%.

Improving the management of appointments

Being able to see attendance patterns in this way was really useful for the service representatives and triggered discussions in the second EVO session as to why early appointments might not be attended and what, if anything, could be changed to improve DNA rates. Some of the ideas discussed including moving all appointments to afternoon slots or testing an over-booking system to make better use of resources.

The costing team then modelled the impact of moving appointments to the afternoon. By moving the 9-10am slots to the 1-2pm slots, the data predicted that an extra 50 appointments would be attended per year for this one clinic. However, changing clinic schedules is a significant process and so the group agreed to test some administrative measures to try to improve attendance. These included:

➢ implementing a system to call new patients three to seven days before the date of appointment
➢ making reminder phone calls with all patients booked for the first two morning slots
➢ reviewing the top 50 repeat non-attenders and contacting them to understand why they are not attending.

Using a PDSA approach, the directorate IMPROVE workstream piloted the actions in the Lymebrook CMHT. The aim is to build on the pilot and develop DNA policies and procedures for the whole Trust.

By the time the group met for their third EVO session, the costing team had already designed a dashboard to support administrative staff to better manage the appointment systems. The dashboard content includes patient appointments for the next two weeks by clinic with:

➢ information on their past attendance
➢ the number of days from the start of their pathway and team episode; and
➢ the member of staff they are due to see.

CMHT administrative staff now have timely access to the information they need to contact people with early morning appointments and rearrange those where necessary.

It has been agreed that the initial work to decrease DNAs should focus on supporting patients to attend their appointment slots, rather than rescheduling clinic times which would have broader impact on how clinical resources were utilised.

Reducing the number of appointments cancelled by the Trust

Figure 1 shows that the proportion of appointments noted as "cancelled by hospital" is also significant, representing 25% of all booked appointments. This was also discussed by the EVO group. The members of the community directorate explained that a significant number of these cancellations were due to appointments being booked before the junior doctors receive their rotas, when clinical availability is not known. For many patients, appointments can be booked 12 months in advance with junior doctors whose rotation comes to an end within that time, and hence slots regularly have to be cancelled and rearranged.

The group also discussed whether the practice of booking appointments a year ahead may also be increasing DNA rates for consultant clinics. The current process notifies patient after three months that their next appointment is in nine months, but this much notice might result in many people failing to attend, never mind those who have a more chaotic lifestyle. This is likely to increase cancellations from patients who won't know their commitments that far ahead.

It was agreed that:

➢ appointment booking systems should be redesigned to reduce cancellations by patients
➢ consideration should be given to offering patients nurse-led appointments when junior doctor clinics were cancelled.

Dealing with frequent non-attenders

Review of clinic data also resulted in the group discussing the measurement of waiting time targets, and the impact this had on service efficiency. The Trust adopts the national access for waiting times standard target of 18 weeks from referral to treatment.

When patients do not attend the first appointment they are offered, or any subsequent one, the Trust's current processes do not result in the "clock being stopped", and so these people are reported as having breached the 18-week target.

In an attempt to limit the extent to which the 18 weeks are exceeded, administrative staff continue to rebook new appointments, which are usually not attended. These appointments could be used to reduce waiting times or provide capacity for people needing more urgent clinical review.

There is a clear clinical risk-based procedure for managing patients who repeatedly fail to attend appointments. The continued rebooking of appointments results in additional work, an increase in the reported DNAs, wasted clinic capacity and frustration for the teams who are trying to achieve the 18-week target. The EVO group agreed that the internal processes need to be amended.

'The introduction of comparatively simple data on clinic attendance has been very powerful for the administrative staff. The data made the team go "Wow", but it isn't rocket science'

Exploring the potential for drug cost savings

The SLR reports used at the first EVO session showed an overspend on drugs costs and so the group decided to investigate why drug cost improvement savings had not been achieved.

Work done by the costing team between the EVO sessions was presented to the group which highlighted three areas for discussion.

VAT savings

There was an assumption in the directorate's cost improvement plan that certain key expensive anti-psychotic drugs were to be ordered through a service agreement with a private company which result in a VAT saving, rather than through the hospital pharmacy system.

The PLICS analysis identified that some consultants were continuing to use the hospital pharmacy rather than a private company. If they had ordered through the private company, the data showed that a £61k saving was possible.

The group discussed a variety of reasons why the ordering process may not be working as expected, with suggestions including:

> the case for using an alternative system for drug purchase may not have been fully communicated to clinicians
> the hospital pharmacy ordering process is more straightforward to use
> there may be a lack of confidence in the private company's deliveries
> staff may not have had the time or motivation to re-organise their ordering process despite the guaranteed VAT savings.

It was agreed that information on the financial benefits of changing suppliers needs to be more widely shared within the directorate, especially as these can be lifetime drugs for some patients.

Administration of olanzapine injections

Presentation of drug cost data also triggered a discussion about the process of administering olanzapine, which is an antipsychotic medication given by injection. After someone is given this injection, they need to be under observation for the next three hours. The staffing costs of this process, along with the medication cost, make this an expensive drug to use.

The EVO group discussed whether an alternative drug could be used instead or whether a designated clinic would be more cost effective and free up staff time. The costing team agreed to analyse the cost of administering olanzapine, including staffing costs, along with the potential savings of using alternative drugs. This is an on-going project.

Improving data quality of drug spend

Monthly information on drugs costs is provided to the clinical teams through the service line reports, but at an aggregated level. The EVO pilot provided an opportunity for the clinicians and managers to drill down to investigate drug costs more closely. The costing team has developed a report to help clinicians to identify potential drug saving opportunities.

Having access to more detailed data helped to explain why cost savings were not materialising, but also helped to improve data quality as it became evident that some drug costs were not being charged to the correct budget line.

Patients accessing both Adult CMHTs and Access team

The EVO team looking at Crisis Care (see case study two) quantified the extent to which patients known to the Adult CMHTs were presenting to the Access service rather than their own CMHTs during normal working hours. The possible reasons for this were:

> ➢ patients being unable to get through to the CMHTs via the phone lines after changes to the phone systems
> ➢ inconsistent message-taking when patients do get through
> ➢ patients disagreeing with CMHT advice so going to Access services.

The Adult CMHT group discussed this issue within their own EVO sessions. The group decided to consider the creation of a specific service for patients with multiple contacts and admissions with a range of inpatient and outpatient services.

It was also suggested that having a panel of senior clinicians that such cases could be referred to may also help to improve the patient's pathway and enable the services to look at patient situations more holistically.

This is an example of how patient pathways are often cross directorate, and the benefits of using patient level data across a variety of services.

Conclusions and next steps

Those involved in the EVO pilot seized the opportunity to identify and start to make improvements to their services. Even before the last EVO session, some of the new initiatives agreed in the EVO sessions were having an impact.

'It has been key to have committed medical leadership and people involved in the EVO group who owned the changes that were proposed.'

The team tracked the changes in DNA rates once staff started making reminder calls with patients booked for early morning clinic appointments. At the start of the EVO pilot the DNA rate for new appointments was about 50%. This had reduced to 26% by session 3 and 22% by session 4; this reduction took place over four months and the group were very encouraged by this.

'We have enjoyed using data to understand what needed to change,
and to measure the subsequent impact of the changes'

The group plans to monitor and produce analysis on the impact of implementing this process over a longer period of time. Where there is evidence of significant improvement, they plan to share it more widely with other services.

"This has got me frighteningly excited about data!" Associate Director

Alongside appointment reminders, work is underway to review those patients who most frequently miss appointments and it is hoped that the combination of measures will mean that structural changes to clinic will not need to be made. Clinician feedback has been very promising, with long term changes expected as a result.

It had been enormously helpful to run the EVO pilot alongside the IMPROVE initiative, although further benefits may have been achieved by holding a joint meeting between the two groups.

Other areas have also made progress since the EVO pilot. A new service – called High Volume users – has been set up to focus on frequent attenders with the aim of taking some of the pressure away from the Access team. Drug costs are now allocated to the correct budget line which has improved the control of spending against the team's drugs budget.

Case Study two – Crisis Care

Introduction

The Acute and Urgent Care directorate was keen to take part in the EVO pilot.

> *'It provided the directorate with the opportunity to explore the data*
> *to confirm or challenge what our service is doing and the way that we do it.'*
> *Interim clinical director, Acute and Urgent Care*

The EVO group was formed with membership from costing, finance and performance colleagues, as well as the directorate's service manager and modern matron, with the intention of using data to try to understand how effectively the directorate uses its resources.

Topics explored

The first EVO session began with an overview of PLICS and the Activity Information Dashboard (AID). (Appendix B provides information about AID). The multidisciplinary team were shown how costs for specific patients, staff and localities within the service could be extracted, and how this costing data could be used alongside activity metrics from AID to show variations in clinical care, activity and costs for the service's acute and urgent care teams.

The group agreed on three key areas for investigation:

> ➤ **Home Treatment team** – what impact does early intervention have on the patient pathway and does it reduce the length of inpatient stay?
> ➤ **Access team** - are patients who are already known to CMHT teams presenting to the Access team?
> ➤ **E-rostering** –how might the information in the new e-rostering system be used to measure acuity?

In addition they looked at the timing of ward discharges and bed occupancy.

Home Treatment team

The Home Treatment team helps avoid admission to the mental health inpatient wards by supporting people in acute mental crisis in their homes. The team is made up of doctors, nurses, social workers and support workers who are available to support patients, carers and their families. The team also works with people in hospital, as they prepare for their discharge home. It helps people who have been discharged from hospital as they make the transition back into the community.

Impact on length of stay

The EVO group were interested in looking at the impact a home treatment intervention had on the length of inpatient stays. The PLICS analysis showed the average length of stay for patients with and without home treatment during a ward admission for three wards. It was expected that the home treatment intervention would result in a shorter length of stay, but that was not the case.

The overall average lengths of stay for people who did or did not have a home treatment episode were very similar, which meant there was minimal difference in the cost of the inpatient stay (figure 2). The costs do not take account of the additional cost of the home treatment intervention.

Figure 2: Average cost of an inpatient admission with and without home treatment

Home Treatment	Average LOS	OBD Price £	Cost Impact £
Excluding Home Treatment	9.58	367	3,516
Including Home Treatment	9.86	367	3,619
Impact to cost			- 103

If the first home treatment contact occurred on the first day of admission, then the length of stay was on average lower than if it occurred in the first week, but the evidence was not compelling. An intervention in the first week resulted in a longer length of stay (figure 3).

Figure 3: Average length of stay with and without home treatment
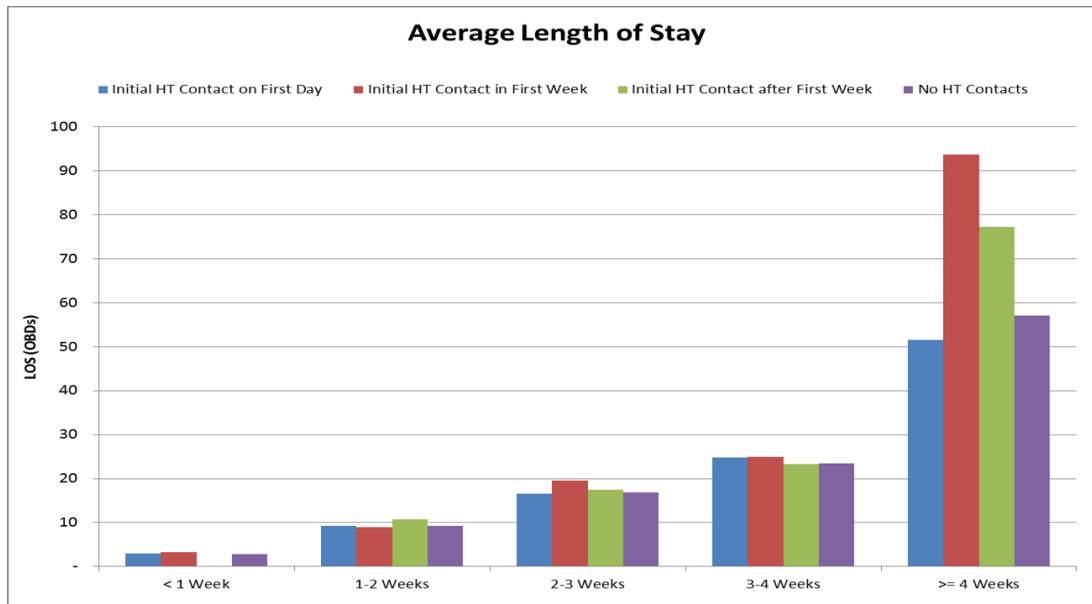
The EVO group discussed why the home treatment intervention did not appear to reduce the length of stay. They reflected that the data was an average for all patients, some of whom may not have been suitable for home treatment, such as someone with relationship problems or someone who had been admitted from a care home.

The group also agreed that there would be a cohort within the data who had had a number of readmissions and may not have received a home treatment intervention for each admission. However, where people are being readmitted regularly, other than some with particularly hard to manage diagnoses where readmissions are expected, the conclusion was that the pathway may not be working as well as it could.

Reviewing individual patient pathways

The group reviewed the care pathway of an individual patient who had a pattern of admissions and discharges. The data enabled the clinical leads to conclude that this patient had probably been discharged too early, and that there appeared to be a lack of input from the care coordinator.

This opportunity to look at individual's pathways through AID was considered to be a great way to visualise the care given to that person and to start to understand if a pathway is working.

The group agreed that the EVO pilot had been useful in highlighting the need to:

> review communication between the Home Treatment team and the wards
> ensure patients have completed/updated risk assessments before discharge
> look at how effective Home Treatment has been for people who are readmitted to a ward.

The performance and costing teams have started to explore whether diagnosis or cluster codes can be used to understand the complexity of the patients within the Home Treatment service to see if this might impact on the length of inpatient stays.
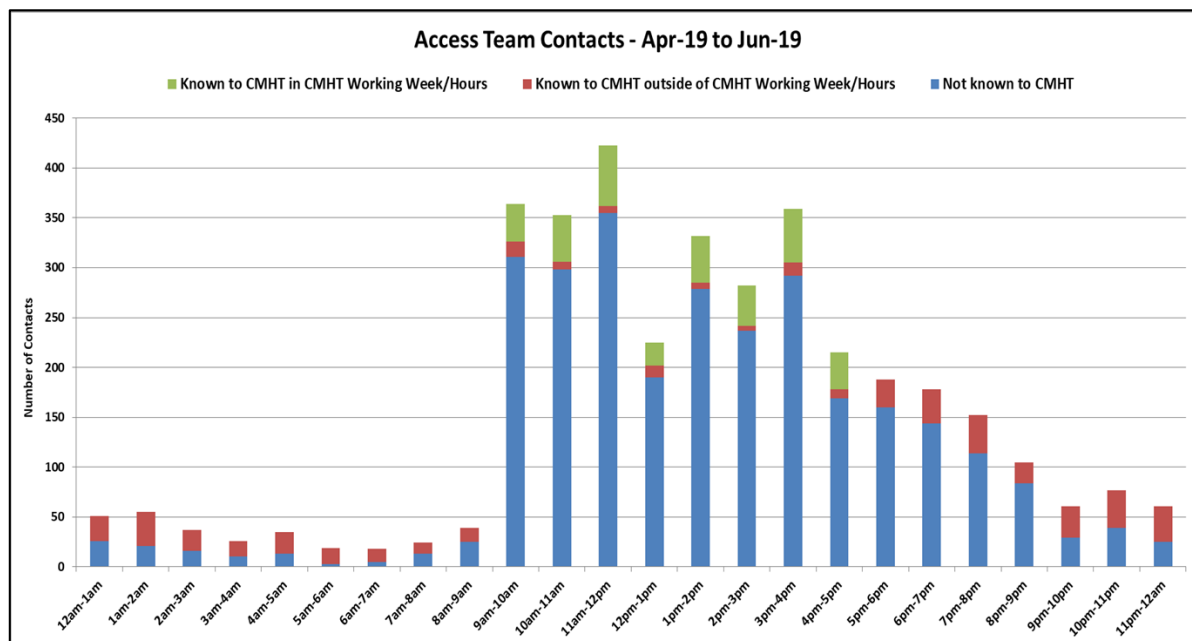
Access team

The Access Team is the single point of contact and access for all Trust services. It provides 24/7 cover for all mental health services.

Contacts with the Access team by patients already known to the Adult CMHTs

The EVO group explored the extent to which patients who are already known to the Adult CMHTs present to the Access team, in particular where the contacts occur during normal working hours.

The number of Access contacts for a three-month period were presented to the group (figure 4). The data showed the time of day for the contact, and whether the patient was known to the CMHTs. It also highlighted for those patients known to the CMHTs whether the contact was during CMHT working hours or outside CMHT working hours.

Figure 4: Patients presenting to the Access team

Access Team Contacts - Apr-19 to Jun-19

During the first quarter of 2019, 347 contacts were completed by the Access team where the patient was known to a CMHT team and the service was available at the time of contact. This equates to 9% of Access contacts in Q1 2019, at an indicative cost of £113k per annum.

Aside from the potential cost impact, the use of the Access team by patients who are already known to a CMHT team may have an impact on the waiting times for people in crisis who do not have access to CMHTs, and who may deteriorate during the delay.

The EVO group discussed some of the barriers that might prevent people from contacting their CMHT. There are known problems with the CMHT telephone systems, and a lack of clear information about how to get help in a crisis. As the Access teams have more call handlers, it is thought it might be easier to get help that way.

Plans are now in place to:

➢ ensure that all care plans log crisis contingency plans
➢ encourage the Access team to promote the CHMT service's ability to provide support in a crisis
➢ review the extent to which people have difficulties in getting through to CMHTs by phone
➢ consider more effective use of digital solutions.

The group expressed interest in reviewing the impact on activity in the Access service once these adjustments have taken place.

As described earlier, the information was also shared with the Adult CMHT EVO group.

Using e-rostering data to measure dependency

Before the EVO pilot the Trust was not collecting information on inpatient dependency. Given the directorate was overspending whilst commissioner income was unchanged, being able to quantify to what extent staff costs were driven by need would provide strong evidence for use in commissioner discussions.

The EVO group were interested in assessing whether a module in the Trust's newly implemented e-rostering system could be used to record the staffing levels needed for each patient on a ward. This could act as a proxy for the severity of their illness and hence the requirements for the level of staffing for safe care.

Figure 5 shows how dependency is measured, with the highest level needing three staff to care for a single patient.

Figure 5: Measurement of dependency on inpatient wards

Level	Observations / Dependency
1	General Observations
2	General Observations
3	Intermittent
4	Intermittent
5	1:1
6	2:1
7	3:1

The group agreed to run a pilot on Ward 6, which is an older adult ward for people with an organic diagnosis and complex needs. A census was carried out three times a day and the results were analysed by the costing team.

Figure 6 shows the required number of staff hours calculated from the dependency census compared to the actual number of staff hours on the ward during October 2019. This was calculated based on the number of staff needed for each patient depending on their level of dependency. Figure 6 shows that the actual staffing levels were consistently lower than the numbers calculated using the ward census data.

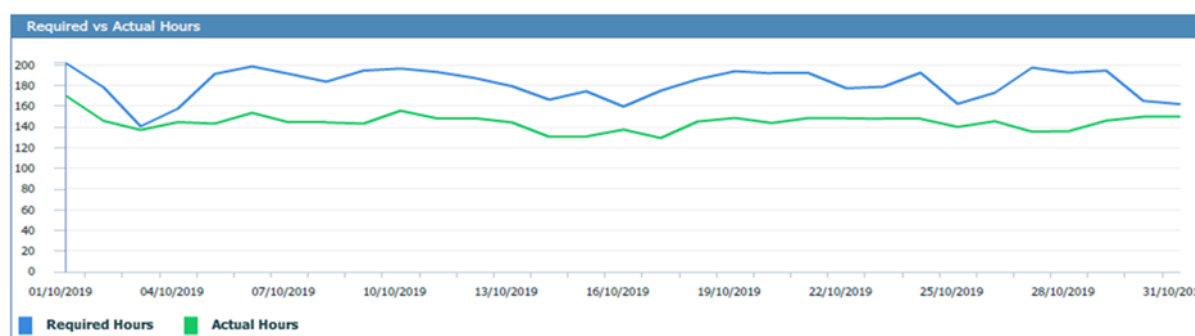*Figure 6: Required staff hours compared to actual staff hours October 2019*

Figure 7 shows the number of patients within each dependency category over the same period. Most patients were recorded as level 2, but there were also a significant number of patients at level 4, and a few at level 5 where one member of staff is needed to look after an individual patient.

Figure 7: Patients by dependency acuity category
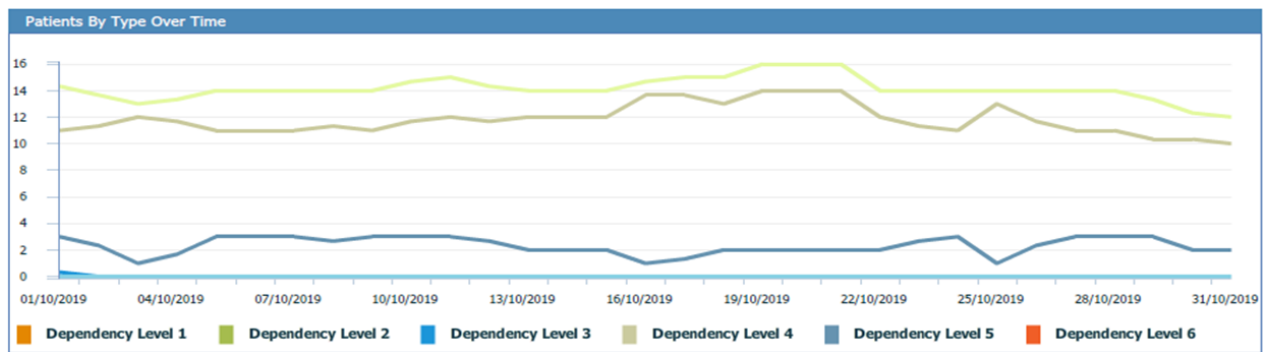
Combining data on actual staff rostered working on the ward with regularly updated information on patient acuity provides the directorate with intelligence that they can use in discussions with commissioners. Triangulation with other data, such as benchmarking which shows that the bed day cost for this older adult ward is below average, and the last three safer staffing reviews, which led to an increase in staffing, all helps to evidence the level of staff needed to ensure the ward is adequately staffed to meet patient needs.

'Without information like this, complexity and acuity are just words in a sentence'
Interim Clinical Director

Timing of ward discharges

As well as looking at the three key areas, the group also briefly considered the timing of ward discharges. At the first session a comment was made that some trusts had been able to improve their bed occupancy by discharging patients earlier so that there was a better chance of filling the bed before midnight.

The costing team presented the EVO group with analysis of the timing of discharges from three wards (figure 8). 87% of discharges occurred at 12pm or later.

Figure 8: Timings of ward discharges 2018/19
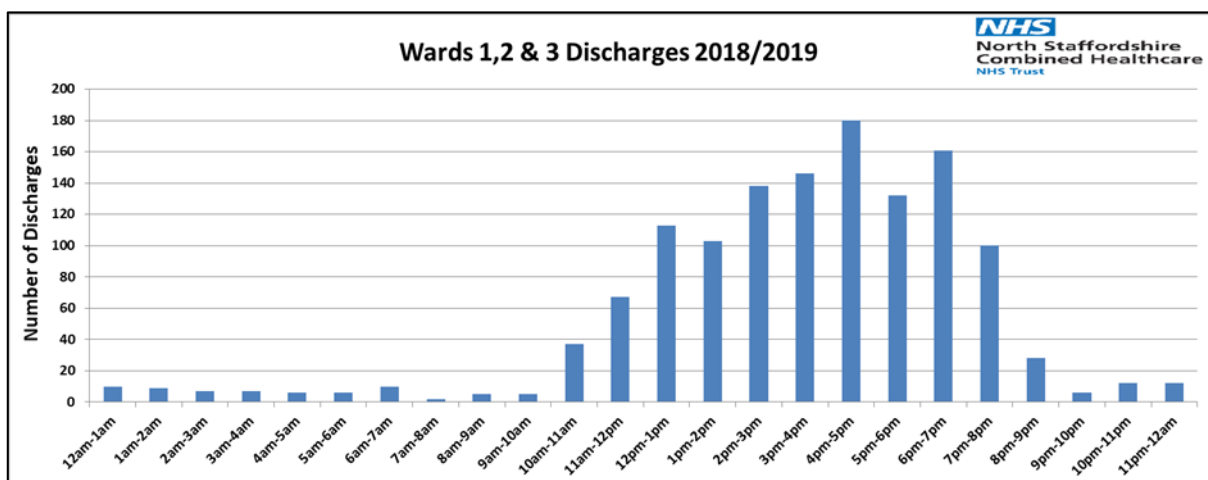
The group recognised that the pattern of discharges was due to the timing of morning ward rounds, which resulted in afternoon discharges. They discussed the possibility of nurses initiating discharges for patients whose presentation had not changed following a recommendation for discharge by the multi-disciplinary team. This would provide an opportunity to admit another patient to the bed on the same day. Service managers are now going to look at the practicality of this option.

Conclusions and next steps

The directorate clinicians involved in the EVO pilot were enormously positive about the skills of the costing team and the tools they use to present data in such an engaging way. The visual presentation of the patient pathways was particularly striking as it provided a lesson on how complex, and occasionally uncoordinated, pathways can be for individual patients.

The topics explored by the EVO group have all resulted in planned changes to services or generated on- going investigations into the issues raised.

The group was keen to share their findings with other clinicians in the directorate in a way that will ensure they are received positively, and will encourage them to adapt their working behaviour. It was decided that the upcoming directorate senior leadership team meeting would be a good platform to share the data and provide an opportunity to continue the joint working with the costing team.

Case Study three – Memory Assessment Service

Introduction

The memory assessment service provides specialist assessment, diagnosis and treatment for people experiencing memory problems.

Prior to the EVO pilot, the clinical psychiatric lead for the memory assessment service had already had some exposure to patient level data, having seen presentations on PLICS and AID (see Appendix B) from the costing team, but confessed she lacked the confidence to use the information herself. A review of the memory service pathway had been under consideration for over a year, and the opportunity to be part of the EVO pilot along with the memory service manager, care coordinator, performance and costing colleagues provided her with an opportunity to see how data could inform pathway development.

As the discussions in the first session of the EVO pilot got underway, it became clear that the complexities of combined physical and mental health challenges for people using the memory service, as well as their normal pattern of deteriorating outcomes, meant that the group would need a tight focus on the topics explored. The group agreed that analysis of the whole health economy activity would have the most impact (as older people are often using multiple local healthcare services simultaneously) but recognised that they should start by looking at the data held within the Trust's systems.

The inflexibility of the patient pathway meant that appointments could sometimes result in the inefficient use of consultant time. The EVO group therefore agreed that they should focus on the efficiency of the pathway. Service efficiency could be improved if the clinicians had diagnostics and activity data to inform more appropriate discharge times along the patient pathway.

Topics explored

By the end of the first session, the group had agreed that the following would be useful to explore to understand and redesign the pathway:

> - map the current pathway using information held on activity and costs
> - review the referral process for head scans
> - develop an algorithm to make the best use of nurses and consultant time and ensure patients are directed onto pathways that best fit their needs
> - consider whether there was an opportunity to reduce the numbers of unattended appointments (DNAs).

The key outcome was intended to be the development of a new memory assessment pathway.

Understanding the current pathway

The clinical members of the EVO group described the existing memory assessment pathway, which is standard for all patients referred to the service, regardless of their differing clinical presentation. This allowed the costing team to map the activity and costs (figure 9).

Figure 9: Current memory assessment pathway

Memory Assessment Pathway	Minutes	Staff Band	Cost per minute £	Full Cost £
Processing referral by nurse, phone call and some admin	15	Assumed Nurse B5	0.28	52.26
Initial Assessment by nurse (1 hour)	90	Assumed Nurse B5	0.28	156.78
CT head Scan (used actual current scan price - UHNM)				70.77
Diagnostic appointment with a doctor	45	GP	1.02	78.39
Nurse FUP Appointments (2 at 30 mins each)	60	Nurse B6	0.35	104.52
Total				462.72

Head scans

Having understood the whole pathway, the group then spent more time considering the referral of patients for head scans. The original focus of discussions had been about the cost of scans, but this broadened to questioning the clinical benefits gained by every patient referred being scanned and the operational impact of ensuring that the results were available for the next appointment.

From a clinical perspective, for many patients the results of a scan would not affect their treatment and diagnosis, so it was agreed that scanning all individuals was not clinically necessary.

When patients are referred for a head scan, they are also were booked for a diagnosis appointment with a doctor two months later. Anecdotal reports from clinicians were that patients would often come for an outpatient appointment before their scan results had been received. This not only wasted clinical time but was also a poor experience for the patient (and their carer).

The costing team produced a chart showing the number of days between referral for a scan and the date that it took place for all patients from the memory service (figure 10). The scans are provided by the local acute Trust, the University Hospitals of North Midlands, with the data being fed into North Staffordshire's PLICS system at patient level.

Figure 10: Days from referral to head scan date by patient
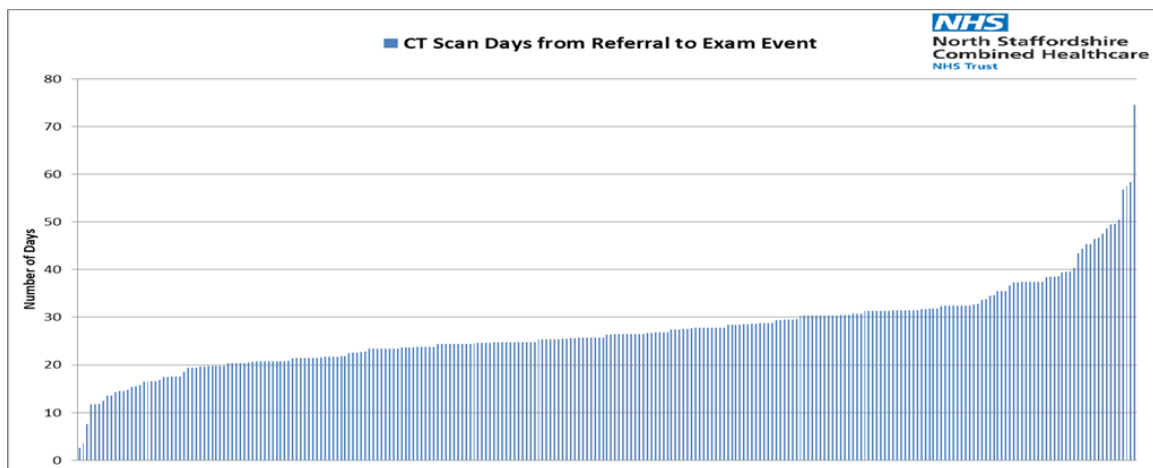
The EVO group learned that the date that the scan results are received by the memory service is not recorded. Adding that date to the existing data would help in the design of a system to optimise the best use of resource and measure where delays occur.

Developing the new memory assessment pathway

Having established the current pathway, the clinical lead worked to develop the new clinical pathway which was mapped with the help of the costing team. This clinician-led draft pathway for memory services was shared with the EVO group.

Along with the plans to create head scan criteria for the nurses to follow to reduce the instances of unnecessary head scans after initial assessments, follow-up appointments will not now be booked until head scan results have been received.

Other planned changes include:

➢ triage by memory service nurses instead of CMHT duty nurses
➢ authorisation for triage nurses to return patients to their referrer when appropriate
➢ a weekly Memory Hub meeting for clinicians to discuss and co-ordinate the next steps of patients whose pathway progressions are not obvious
➢ all patients will be offered a nurse follow up appointment regardless of whether they are on medication or not.

In order to engage colleagues within the service who were not involved in the EVO process, the draft pathway flow diagram was printed and displayed in the memory clinics for the clinicians to add post-it note comments with their views (figure 11).

Figure 11: The new draft memory assessment service pathway
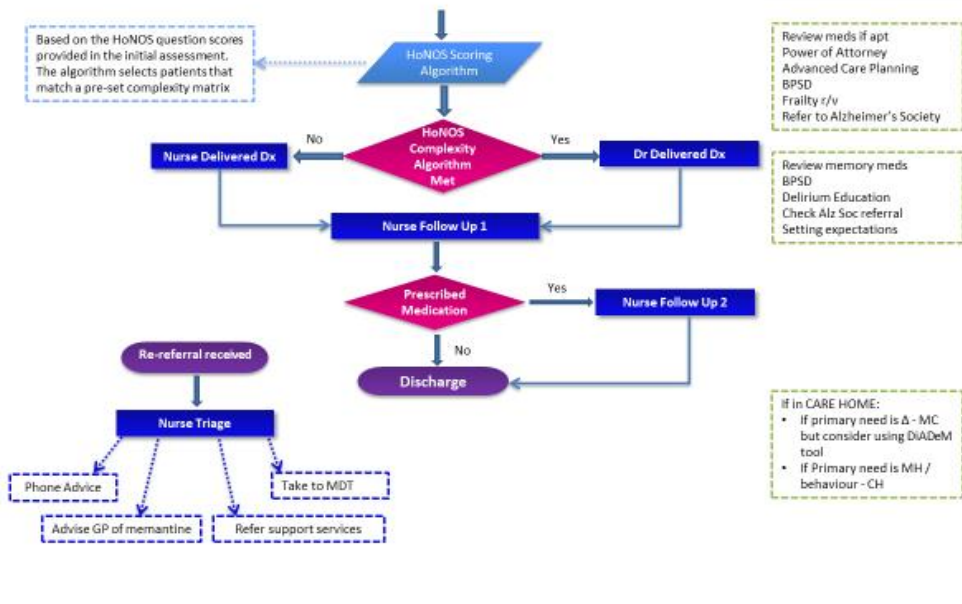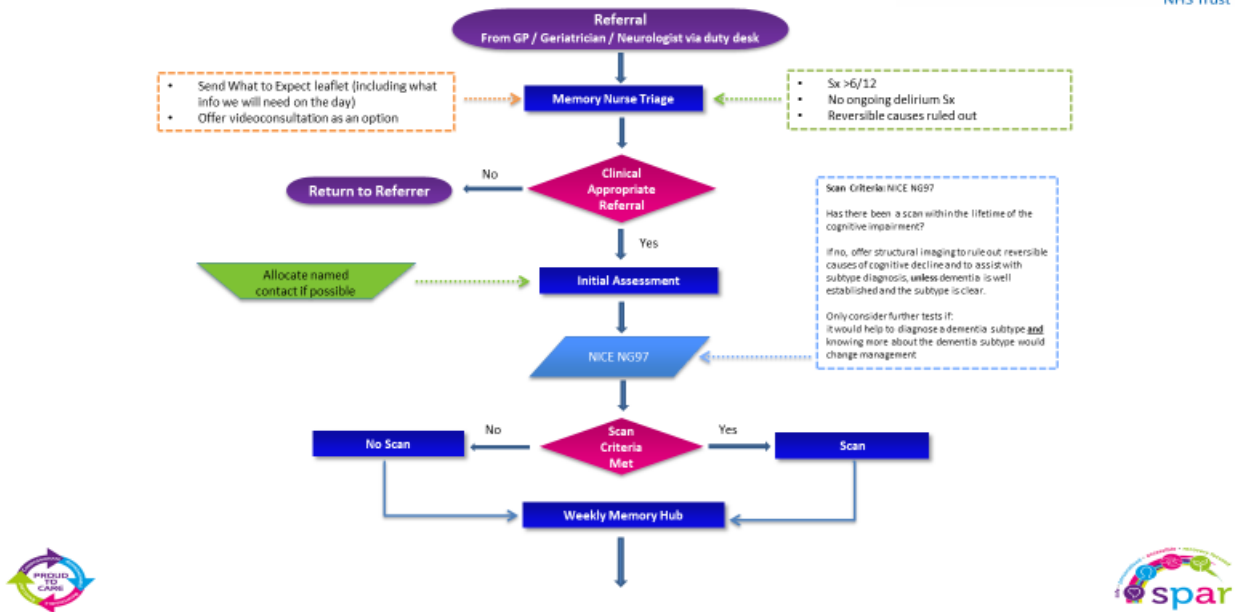
Developing an algorithm to support the new pathway

The EVO group discussed the idea of producing an algorithm to support the new memory assessment pathway. The algorithm would have a series of questions, the answers to which would ensure that the patient was directed to the correct resource. The intention is to use the Health of the Nation Outcome Scores (HONOS) scores to ensure the patient is put on either the consultant-led or the nurse-led pathway depending on the score.

This is an example of the power of getting the right people in the room together with a mixture of skills and knowledge. The algorithm is currently being developed.

Did Not Attends (DNAs)

The EVO group was also interested in exploring whether there was an opportunity to reduce the number of DNAs.

In the first EVO session the costing team provided the group with a range of analysis of non-attended appointments by clinician and date showing the cost implications of DNAs in the City memory service as an example of an opportunity for savings and service efficiency improvements in future. This allowed the service to explore the data on their own, using AID, and start to monitor and make small changes to improve the level of DNAs.

Conclusions and next steps

For the clinical members of the EVO group, one of the benefits of the pilot has been not only the knowledge that there is data available to inform decisions on service changes, but finance and costing colleagues can help with both interpretation and presentation of the information.

'Costing and numbers was a grey mystical world, something other people did. I am certainly not a data guru, but I have a greater sense of ownership of service data'
Clinical lead

The benefit of working through the EVO process was that it has been genuinely clinically led, and hence felt to be different to the normal cost improvement plan process. One participant said that the tone for this work was set by the director of finance in the opening EVO session with the statement "If you just do the right thing clinically, it will usually cost less". It has been about quality not money.

During the EVO process, there were no significant quality problems with the memory service data, but the group discovered it was crucial that the clinical service and costing team worked together with the costing team to interpret the information. For example, one clinician appeared to have no non-attended appointments, but this is because they only do home visits.

The new memory service pathway will direct patients to the nurse or consultant best equipped to deal with the complexity of the patient's needs. This means that the correct clinical questions can be asked to ensure patients are only referred for the correct tests, and not referred at all if they don't need a head scan. It is therefore expected that there will be reduction in the numbers and costs of scans, but some patients will need an additional appointment with a nurse.

The service leads know clinically what a pathway should look like and which guidelines need to be followed, but they now recognise that access to data provides them with the evidence they need to demonstrate the impact of pathway changes.

Given the tight timeframe of the EVO, it was challenging to develop a new pathway during that process. Whilst it had been under consideration for a while, the clinical lead wanted it to be meaningful, and ensure she won the "hearts and minds" of clinical colleagues. Time was needed to gather feedback and get people ready for the change. EVO has however provided both the opportunity to gather the evidence required and a partnership approach to developing the pathway.

Overall conclusion from pilot sites

By developing EVO, HFMA's Healthcare Costing for Value Institute and FFF set out to promote collaborative working between clinical and finance teams, and to unlock the power of PLICS by encouraging the use of the rich data set by clinical services.

EVO strengthened working relationships between clinical services, informatics and finance at all pilot sites. One participant described the EVO framework as a 'launch pad for trusts struggling with clinical and financial engagement.'

For many clinicians – doctors, nurses, allied health professionals – this was the first time they had seen PLICS data for their own patients. It was also the first time for some finance business partners.

Pilot sites demonstrated that the EVO approach can lead to important action, for example improving productivity and patient care, or building the case for new models of care and prevention programmes.

EVO bridges the gap between a theoretical model of value-based healthcare and one that is embedded in the day-to-day delivery of better care for patients. As one EVO participant said: 'If you do the right thing for the patient, your money will come right, and EVO has evidenced this beautifully.'

Embedding EVO

It is important that EVO is sustainable and can be used in its own right beyond the initial facilitated implementation. This is about equipping trusts with the tools to instigate positive change and incentivising them to use this framework at scale.

Pilot sites have been provided with online resources to support the roll-out of EVO. Specialties and services will have varying needs and will be looking for a variety of outcomes from EVO. The EVO Pilot Tools are designed to give teams flexibility to use them in whatever manner they feel is most appropriate.

EVO accreditation

By successfully completing EVO in three specialties/ services, the four pilot sites are the first trusts to be accredited as 'EVO Bronze' sites. If they roll out EVO further, they will have the opportunity to be accredited as EVO Silver sites.

Future plans

The [EVO website](#) EVO website will be regularly updated with new case studies and information about future plans.

If you are interested in receiving information on the upcoming beta version of EVO, please email richard.sawyer@hfma.org.uk to register your interest.

Appendix A EVO pilot sites

Organisation	Sector	Specialty/service
Gloucestershire Health and Care NHS Foundation Trust	Community	• Diabetes • Allied Health Professionals • Wound Care
Great Western Hospitals NHS Foundation Trust	Acute	• Cardiology • Gynaecology • Trauma and Orthopaedics
North Staffordshire Combined Healthcare NHS Trust	Mental Health	• Adult Community Mental Health Teams • Crisis Care • Memory Service
University Hospitals Birmingham NHS Foundation Trust	Acute	• Dermatology • Trauma and Orthopaedics • Vascular Surgery

Appendix B Activity Information Dashboard

The Trust's PLICS system is Prodacapo, with Qlikview business intelligence software being used to share and interrogate the PLICS data.

As well as the standard PLICS dashboard, the costing team has developed their own Activity Information Dashboard 'AID' using Qlikview as an additional tool.

AID is populated using the same source data that feeds PLICS.

Activity data in the AID dashboard is updated daily which means that this data can be scrutinized in advance of it being used in the quarterly PLICS model.

Figure 12 shows how AID is structured.

Figure 12: Activity Information Dashboard home page
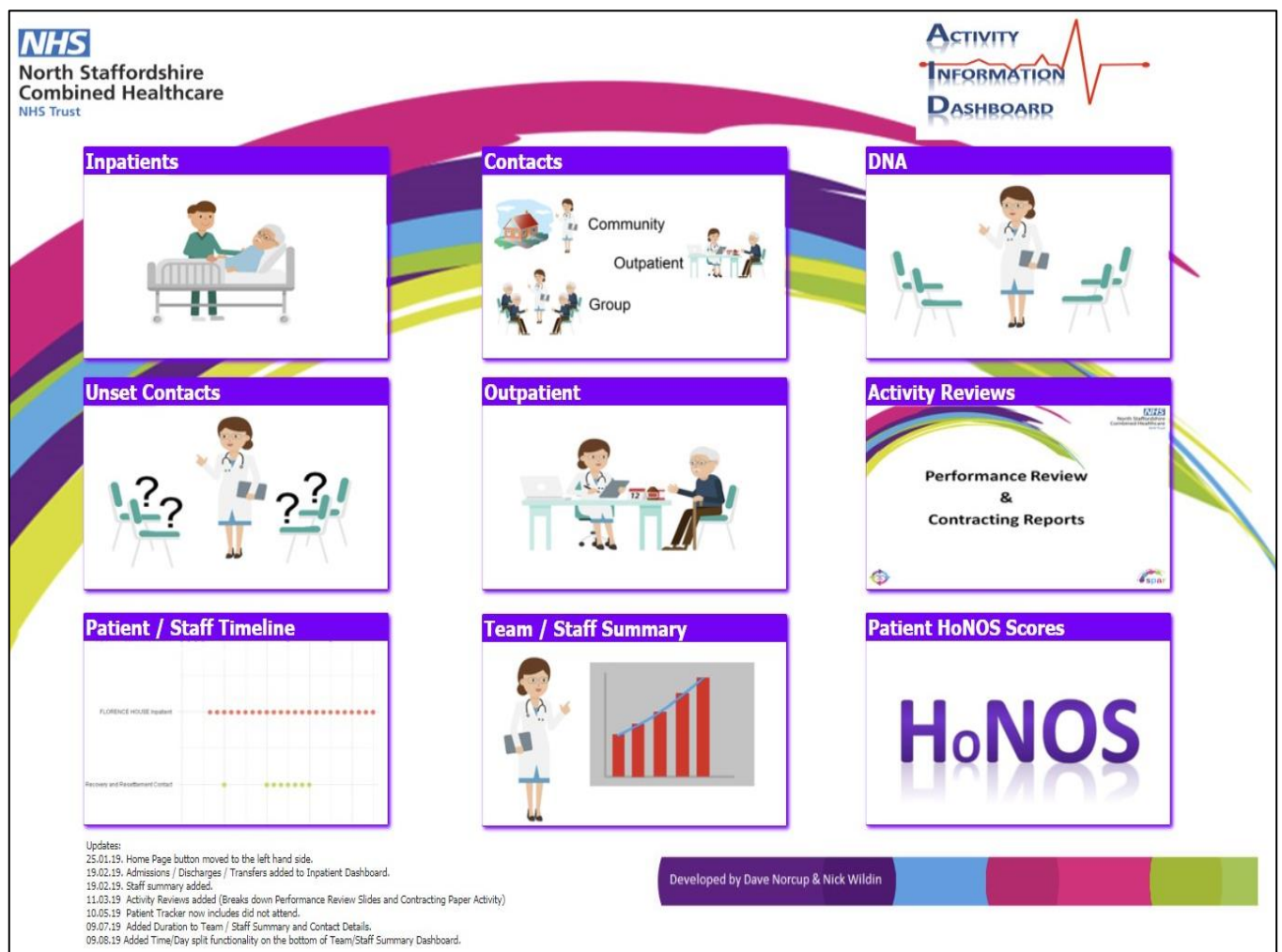
AID has been crucial in engaging clinicians to review their activity and identify service improvements which has then led to improvements in the quality of PLICS data. When clinicians raise concerns about data quality, the Trust's costing team work quickly to ensure these are corrected, with changes being made to the source data. This helps to build confidence in the information.

Throughout the development of AID, the costing team has used Qlikview to present data in a way that is user friendly, easy to understand and tailored to the needs of the services.

Appendix C EVO Expert Panel

We are grateful to the expert panel who contributed to the development of EVO. The panel covered three sectors: acute, mental health and community services.

Name	Job title	Organisation
Dr Sanjay Agrawal	Consultant in Respiratory and Critical Care Medicine	University Hospitals of Leicester NHS Trust
Stuart Burney	Finance Business Partner and Head of Costing	South Tees Hospitals NHS FT
Dr Jane Carlile	Consultant Psychiatrist and Group Medical Director	Northumberland Tyne and Wear NHS FT
Sheelagh Carr	Head of Costing, Systems and Projects	Greater Manchester Mental Health NHS FT
Chris Chapman	Professor of Management Accounting	Bristol University
Dr Clara Day	Renal Consultant and Associate Medical Director for Finance	University Hospitals Birmingham NHS FT
Sarah Hall	Implementation Lead IAPT Service	Dorset HealthCare University NHS FT
Scott Hodgson	Head of Costing	Nottingham University Hospitals NHS Trust
Clare Jacklin	Costing Manager	Humber NHS FT
Dr Jean MacLeod	Consultant Physician in Medicine and Diabetes	North Tees and Hartlepool NHS FT
Mike McEnaney	Director of Finance	Oxford Health NHS FT
Matt Miles	Finance Business Partner	Lincolnshire Community Health Services NHS Trust
Andrew Monahan	Policy and Research Manager	HFMA
Mike Newton	Deputy Director of Finance	North Staffordshire Combined Healthcare NHS Trust
Duncan Orme	Deputy Director of Finance	Nottingham University Hospitals NHS Trust
Alex Packard	Commercial Finance Manager	Berkshire Healthcare NHS FT
Ros Preen	Director of Finance	Shropshire Community Health NHS Trust
Jenny Richards	Senior Planning and Costing Manager	Gloucestershire Health and Care NHS FT
Hayley Ringrose	Chief Financial Analyst	Stockport NHS FT
Ben Roberts	Senior Finance Business Partner	Leeds Teaching Hospitals NHS Trust
Sheila Stenson	Executive Director of Finance	Kent and Medway NHS and Social Care Partnership Trust
Ella Worsdale	Head of Information	Pennine Care NHS FT

About the Healthcare Costing for Value Institute

HFMA's Institute champions the importance of value-based healthcare for supporting the delivery of high-quality financially sustainable healthcare. Through its member network, it supports the NHS to improve costing and make the most of patient-level cost data to drive improvements in patient care and deliver efficiencies. By bringing together senior finance and clinicians to explore what value means, the Institute helps the NHS to turn the theory of value into practice and make value-based healthcare a reality.

About Future-Focused Finance

Future-Focused Finance is a national programme designed to engage everyone in improving NHS Finance to support the delivery of quality services for patients. We want to bring finance staff at all levels of the profession together with the teams we work with in our own organisations and make sure that everyone has access to skills, knowledge, methods and opportunities to influence the decisions affecting our services. We believe by working together in this way we can harness our diverse and talented NHS workforce to produce high quality services and reduce waste in NHS spending.

About the HFMA

The Healthcare Financial Management Association (HFMA) is the professional body for finance staff working in healthcare. For 70 years it has provided independent support and guidance to its members and the wider healthcare community. It is a charitable organisation that promotes the highest professional standards and innovation in financial management and governance across the UK health economy through its local and national networks. The association analyses and responds to national policy and aims to exert influence in shaping the healthcare agenda. It also works with other organisations with shared aims in order to promote financial management and governance approaches that really are 'fit for purpose' and effective.